Operating Instructions

SolConeX Plug, 63 A

> 8579/12

STAHL

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2 General Information

2.1 Manufacturer

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2.2 Operating Instructions Information

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2.3 Conformity to Standards and Regulations

The conformity to the standards and regulations is specified in the corresponding certificates and declarations of the manufacturer (e.g. EC Declaration of Conformity). These documents are available for download on the internet page www.stahl-ex.com.

3 Symbols Used

	Safety instructions **Non-observance can result in damage to equipment, serious injuries or death.** The safety instructions contained in these operating instructions and affixed to the device must be observed!
	Warning symbol Danger due to explosive atmosphere!
	Warning symbol Danger due to live parts!
☞	**Notice** This symbol marks important additional information, tips and recommendations.

4 General Safety Instructions

4.1 Operating Instructions Storage

Read carefully these operating instructions and store them near the installation place. For correct operation, please observe all other operating instructions enclosed in this delivery and the operating instructions of the equipment to be connected.

⚠ WARNING	
	Use the devices only for their intended purpose! ▶ We cannot be held liable for damage caused by an incorrect or unauthorized use or by non-observance of these operating instructions. ▶ Use the device only if it is undamaged.

⚠ WARNING	
	Any unauthorized work on the device is prohibited! Installation, maintenance, overhaul and repair may only be carried out by appropriately authorized and trained personnel.

Observe the following information during installation and operation:

- ▶ Any damage can invalidate the explosion protection
- ▶ National and local safety regulations
- ▶ National and local accident prevention regulations
- ▶ National and local assembly and installation regulations
- ▶ Generally recognized technical regulations
- ▶ Safety instructions in these operating instructions
- ▶ Characteristic values and rated operating conditions on the rating and data plates
- ▶ Additional instruction plates fixed directly to the device

4.2 Alterations and Modifications

⚠ WARNING	
	Alterations and modifications to the device are not permitted! We shall not accept any liability or warranty obligations for damage resulting from alterations and modifications.

4.3 Special Versions

In case of additional/different order options, special versions may differ from the description given here.

5 Intended Use

The plugs 8579/12 are explosion protected equipment, certified for use in hazardous areas Zones 1, 2 and 21, 22. The devices connect portable and fixed electrical equipment as well as cables and circuits in hazardous areas. The plugs can be used with the following sockets:

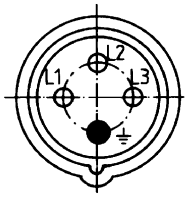
- 8579/11 Switch socket
- 8579/31 Switch socket
- Industrial type sockets according to CEE standard

6 Technical Data

Version	**8579/12**
Explosion protection	
Global (IECEx)	
Gas and dust	IECEx PTB 06.0020 Ex d e IIC Ex tD A21 IP66
Europe (ATEX)	
Gas and dust	PTB 01 ATEX 1150 Ⓔx II 2 G Ex d e IIC Ⓔx II 2 D Ex tD A21 IP66
Electrical data	
Rated operational voltage	max. 690 V
Rated operational current	63 A ≥ 100 Hz, 50 A
Rated insulation voltage	max. 690 V
Ambient conditions	
Ambient temperature	see Explosion protection data 8579/11 or 8579/31
Mechanical data	
Enclosure material	polyamide
Degree of protection	IP66 acc. to IEC/EN 60529
Assembly / Installation	
Connection terminal	
Connection cross-section	2.5 ... 16 mm^2
Tightening torque	max. 2 Nm
Cable entry	24 ... 36 mm cable diameter

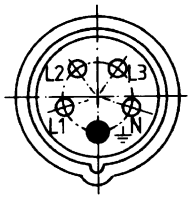
6.1 Arrangement of Contacts and Terminal Marking

View from the front. The illustrations show the 6 h position.



06556E00

3P + PE



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3P + N + PE

No. of poles	Frequency	Rated operational voltage	Colour code	Position of the earth contact
3P + PE	50 and 60 Hz	100 ... 130 V	yellow	4 h
		200 ... 250 V	blue	9 h
		380 ... 415 V	red	6 h
	60 Hz	440 ... 460 V [1]	red	11 h
	50 and 60 Hz	480 ... 500 V	black	7 h
		600 ... 690 V	black	5 h
		after isolating transformer	[4]	12 h
	50 Hz 60 Hz	380 V [2] 440 V [2]	red	3 h
	100 ... 300 Hz	> 50 V	green	10 h [3]
	> 300 ... 500 Hz	> 50 V	green	2 h
3P + N + PE	50 and 60 Hz	57 / 100 ... 75 / 130 V	yellow	4 h
		120 / 208 ... 144 / 250 V	blue	9 h
		200 / 346 ... 240 / 415 V	red	6 h
		277 / 480 ... 288 / 500 V	black	7 h
		347 / 600 ... 400 / 690 V	black	5 h
	60 Hz	250 / 440 ... 265 / 460 V	red	11 h
	50 Hz	220 / 380 V [2]	red	3 h
	60 Hz	250 / 440 V [2]		
	100 ... 300 Hz	> 50 V	green	10 h
	> 300 ... 500 Hz	> 50 V	green	2 h
Any no. of poles	All nominal operating voltages and/or frequencies not covered by other arrangements.			1 h

Colour code and arrangement of the earthing contact, relative to the polarizing slot, for different voltages and frequencies according to IEC/EN 60309-2

[1] Mainly for ship installations

[2] Only for refrigerated containers (according to ISO standards)

[3] Not standardized but recommended preferred position

[4] Colour code in accordance with voltage colour code

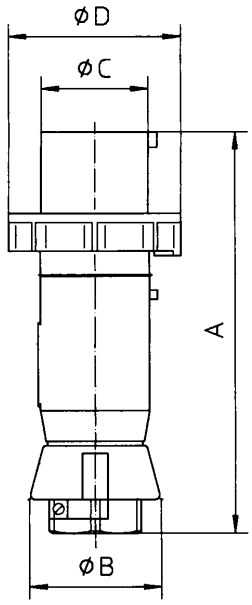
7 Transport and Storage

- ▶ Transport and storage are only permitted in the original packaging.
- ▶ The devices must be stored in a dry place and vibration-free.

8 Installation

8.1 Dimensional Data / Fastening Dimensions

Dimensional drawings (all dimensions in mm) - subject to alterations



	mm
A	260
B	84
C	69.5
D	112

8.2 Installation and Operating Position

With the plug inserted, the operating position is optional.

- When unplugged, the plug should be suspended, with the contact pins pointing downward.

NOTICE	
☞	A suitable protective cap protects the plug pins from pollution. Protective cap, see "Accessories and Spare Parts", Art.no. 153261.

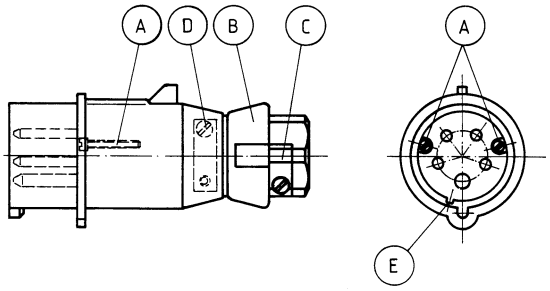
8.3 Electrical Connection

- The information given in chapter "Technical Data" must be observed.
- The conductor connection must be made with particular care.
- The conductor insulation must reach to the clamping points.
- Do not damage the conductor (nicking) when removing the insulation.
- Select suitable cables to be used and appropriate way of leading them to ensure that the maximum permitted conductor temperature and the maximum permitted surface temperature is not exceeded.

NOTICE	
☞	Always connect the protective conductor.

8.4 Connection

⚠ WARNING
Ensure correct conductor connection! Observe the information regarding the connection cross-sections given in chapter "Technical Data".



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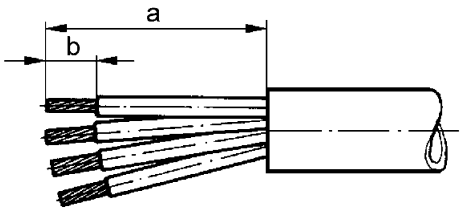
A = Screw
B = Pressure screw
C = Clamp
D = Strain relief
E = Guiding groove

- ▶ Loosen screws (A) and extract the plug insert manually from the enclosure.
- ▶ Loosen clamp (C) and pressure screw (B).
- ▶ Remove the dust protection plate, and take out the pressure ring and seal.
- ▶ Push the cable (ø 24 ... 36 mm) through the pressure screw, pressure ring, gasket and enclosure.
- ▶ If necessary, increase the internal diameter of the seal by trimming it to match the cable diameter.
- ▶ Strip the insulation from the cable (see figure).



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a [mm]	b [mm]	Connection cross-section [mm²]
80	17	2.5 ... 16

NOTICE
On the connection side, the contact pin carrier is marked with "Abisolation" (insulation removed) next to the earth connection symbol. The indentation below indicates the correct stripping length.

- ▶ Connect the cable (connection cross-section 2.5 ... 16 mm²) to the plug insert. The stripped cable ends must be pushed fully underneath the clamping plate.
- ▶ Align the cable such that the terminals are not under strain.
- ▶ Mount the strain relief (D).
- ▶ Fasten the plug insert in the enclosure such that key and guiding groove (E) match.
- ▶ Press the seal into the enclosure (prestamped side pointing inwards).
- ▶ Place the pressure ring on the seal.
- ▶ Tighten the pressure screw (B).
- ▶ Secure the pressure screw with the clamp (C).

9 Putting into Service

Before commissioning, ensure that:

- ▶ no components are damaged
- ▶ the device has been installed according to regulations
- ▶ there are no foreign bodies inside the device
- ▶ all screws and nuts have been firmly tightened
- ▶ all wires have been inserted correctly
- ▶ the prescribed tightening torques have been observed
- ▶ connection has been made correctly
- ▶ the bayonet lock is tightened correctly

⚠ WARNING	
	Do not damage the plug pin surface! Excessive tightening of the components can impair the degree of protection.

⚠ WARNING	
	The plug may only be used when fully mounted! If not fully mounted, the plug must not be used.

10 Maintenance, Overhaul and Repair

Consult the relevant national regulations to determine the type and extent of inspections. Plan the intervals so that any defects in the equipment which may be anticipated are promptly detected.

⚠ WARNING	
	Risk of electric shock! Before opening the device, disconnect it from the power supply.

The following details must be checked during maintenance:

- ✗ Cables are held securely in place
- ✗ Compliance with the permitted temperatures (according to IEC/EN 60079)
- ✗ Damage to the enclosure and seals
- ✗ Check if screws and nuts are tight.

NOTICE	
☞	To avoid corrosion, the plug must be pulled regularly.

Maintenance

- ▶ If required, clean plug pins
- ▶ After 1000 mating cycles, lubrication, after previous cleaning, with the lubricating oil **KLÜBERALFA KRA 3-730** is recommended.

NOTICE	
☞	It is not allowed to use lubricating greases based on mineral oils!

10.1 Short-circuit in the Main Circuit

⚠ WARNING	
EX	**Danger caused by a short-circuit in the main circuit!** The functioning of the plug must always be checked after any system short-circuit.

11 Cleaning

The device may only be cleaned with a damp cloth.

12 Disposal

Observe the national waste disposal regulations.

13 Accessories and Spare Parts

⚠ WARNING	
EX	**If no original components are used, explosion protection is no longer guaranteed!** Use only original R. STAHL accessories and spare parts.

Designation		Description	Art. no.	Weight kg
Protective cap		protects the plug pins from pollution	153261	0.100

EG-Konformitätserklärung
EC Declaration of Conformity
Déclaration de Conformité CE

R. STAHL Schaltgeräte GmbH • Am Bahnhof 30 • 74638 Waldenburg, Germany
erklärt in alleiniger Verantwortung, *declares in its sole responsibility, déclare sous sa seule responsabilité,*

dass das Produkt: *that the product:* *que le produit:*	**Steckvorrichtung** *Plug and socket* *Prise de courant*
Typ(en), *type(s), type(s):*	**8579/12** **8579/31**

mit den Anforderungen der folgenden Richtlinien und Normen übereinstimmt.
is in conformity with the requirements of the following directives and standards.
est conforme aux exigences des directives et des normes suivantes.

Richtlinie(n) *Directive(s)* *Directive(s)*	**Norm(en)** *Standard(s)* *Norme(s)*
94/9/EG: **ATEX-Richtlinie** *94/9/EC: ATEX Directive* *94/9/CE: Directive ATEX*	EN 60079-0:2012 EN 60079-1:2007 EN 60079-7:2007 EN 60079-11:2012 EN 60079-31:2009
Kennzeichnung, *marking, marquage:*	**II 2 G Ex d e IIC T6, T5, T4 Gb** **II 2 G Ex d e [ib] IIC T6, T5, T4 Gb** **CE 0158** **II 2 D Ex tb IIIC T60°C ... T105°C Db**
EG-Baumusterprüfbescheinigung: *EC Type Examination Certificate:* *Attestation d'examen CE de type:*	**PTB 03 ATEX 1227** (Physikalisch-Technische Bundesanstalt, Bundesallee 100, 38116 Braunschweig, Germany, NB0102)
Produktnormen nach Niederspannungsrichtlinie: *Product standards according to Low Voltage Directive:* *Normes des produit pour la Directive Basse Tension:*	EN 60309-1:1999+A1:2007+A2:2012 EN 60309-2:1999+A1:2007+A2:2012 EN 60309-4:2007+A1:2012
2004/108/EG: **EMV-Richtlinie** *2004/108/EC: EMC Directive* *2004/108/CE: Directive CEM*	Nicht zutreffend nach Artikel 1, Absatz 3. *Not applicable according to article 1, paragraph 3.* *Non applicable selon l'article 1, paragraphe 3.*

Spezifische Merkmale und Bedingungen für den Einbau siehe Betriebsanleitung.
Specific characteristics and how to incorporate see operating instructions.
Caractéristiques et conditions spécifiques pour l'installation voir le mode d'emploi.

Waldenburg, 2014-09-19	i.V.	i.V.
Ort und Datum *Place and date* *Lieu et date*	**Steffen Buhl** **Leiter Entwicklung Schaltgeräte** *Director R&D Switchgear* *Directeur R&D Appareillage*	**J.-P. Rückgauer** **Leiter Qualitätsmanagement** *Director Quality Management* *Directeur Assurance de Qualité*